

NORTH PACIFIC OCEAN, OCTOBER 1936

By J. H. GALLENNE

Atmospheric pressure.—Pressures averaged high during October over the ocean region adjacent to the coast between Juneau, Alaska, and Tatoosh Island, Wash.; the maximum plus departure of 0.12 inch was noted at the latter place.

With the exception of 9 days during the month, low pressure predominated over the Aleutians. In this area, Dutch Harbor recorded the greatest minus departure for the month, -0.15 inch. Elsewhere over the ocean, near normal pressures prevailed.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, North Pacific Ocean, October 1936, at selected stations

| Stations | Average pressure | Departure from normal | Highest | Date | Lowest | Date |
|---------------------|------------------|-----------------------|---------------|------|---------------|--------|
| | <i>Inches</i> | <i>Inch</i> | <i>Inches</i> | | <i>Inches</i> | |
| Point Barrow..... | 29.97 | +0.04 | 30.48 | 18 | 29.56 | 16, 22 |
| Dutch Harbor..... | 29.50 | -.15 | 30.10 | 17 | 28.84 | 1 |
| St. Paul..... | 29.59 | -.04 | 30.22 | 18 | 29.12 | 20 |
| Kodiak..... | 29.62 | + .03 | 30.22 | 18 | 28.70 | 5 |
| Juneau..... | 29.98 | + .11 | 30.41 | 31 | 29.38 | 5 |
| Tatoosh Island..... | 30.13 | + .12 | 30.50 | 15 | 29.74 | 29 |
| San Francisco..... | 29.96 | -.05 | 30.17 | 26 | 29.70 | 16 |
| Mazatlan..... | 29.85 | + .01 | 29.94 | 29 | 29.70 | 8 |
| Honolulu..... | 29.96 | -.04 | 30.06 | 3 | 29.72 | 29 |
| Midway Island..... | 30.02 | -.01 | 30.30 | 27 | 29.76 | 19 |
| Guam..... | 29.82 | -.02 | 29.92 | 16 | 29.72 | 10 |
| Manila..... | 29.76 | -.04 | 29.90 | 3 | 29.44 | 11 |
| Hong Kong..... | | | | | | |
| Naha..... | 29.86 | -.04 | 30.16 | 27 | 28.80 | 1 |
| Chichishima..... | 29.91 | .00 | 30.22 | 28 | 29.48 | 12 |
| Urakawa..... | 29.90 | ----- | 30.25 | 28 | 28.72 | 3 |

NOTE.—Data based on 1 daily observation only, except those for Juneau, Tatoosh Island, San Francisco, and Honolulu, which are based on 2 observations. Departures are computed from best available normals related to time of observation.

Cyclones and gales.—There was much stormy weather, and gales were frequent over the ocean during October. Cyclonic conditions were charted some distance southeast of Naha on the first of the month, moving in a northeasterly direction. Naha reported wind, northeast, force 9; barometer 28.80 inches at the morning observation. At about noon of the 3d, the motorship *San Pedro Maru*, encountered this disturbance, giving her position then as 36°03' N., and 141°59' E. This same vessel subsequently reported, from 2 to 3:55 p. m., wind southeast to east, increasing to force 10, with heavy rain. Between 3:55 and 4:05 p. m., the wind abated suddenly and blue sky was observed. Shortly after passing from the calm center, a westerly wind developed to force 10 until 7 p. m., accompanied by heavy rain. The barometric minimum 28.09 inches (corrected) was observed at about 4 p. m. This is the lowest pressure of record during the month over the North Pacific Ocean.

Strong gales prevailed for the first 3 days of the month, north of the 50th parallel, between 140° and 170° west longitude.

On the morning of the 7th, the center of a weak cyclonic circulation was noted at approximately 15° N. and 105° W., moving in a north-northwesterly direction. The available reports do not show definite progressive movement after October 9, at which time this tropical disturbance was located over the Gulf of California. In connection with this disturbance, the steamship *Steelmaker*, near latitude 14° N. and longitude 102° W., at 7 a. m. of the 7th, reported fresh south-southwest gales and at 7 p. m. of the 8th, the steamship *Hanover*, near 20° N. and 106° W., noted wind southeast, force 8; barometer 29.73 inches.

The center of a vigorous depression was charted at the p. m. observation of the 12th near latitude 42° N. and longitude 179° W., moving in a direction slightly south of east. On the morning of the 13th the steamship *Winamae*, 41½° N. and 170° W., then northwest of the center, reported wind northeast, force 10; barometer 28.82 inches. Increasing in intensity, this depression curved toward the northwest and was centered at about 42½° N. and 170° W. at the p. m. observation of the 13th. Further reports from the steamship *Winamac*, during the p. m. of the 13th, stated position approximately 41½° N. and 172° W.; wind northwest, force 12; barometer 28.79 inches. During the next 2 days, this depression decreased in intensity and moved along a north-northeasterly course. It passed inland about 150 miles west of Kodiak, Alaska, during the afternoon of the 15th. Several vessels encountering this disturbance reported strong gales. (See table of Gales and Storms.)

During the period October 17 to 20, gales of force 8 to 12 occurred in the Far East in connection with typhoons. A report of typhoons of the Far East by the Rev. Bernard F. Doucette, S. J., of the Central Observatory, Manila, P. I., appears elsewhere in this REVIEW.

At 4 p. m. of the 20th the motorship *Falsterbo*, near latitude 41°02' N. and longitude 124°50' W. reported north wind, force 10. This vessel at that time was in the easterly quadrant of an anticyclonic area.

Strong anticyclonic conditions overspread the lower central and western portions of the Pacific Ocean from the 26th to the 29th of the month.

At the a. m. observation of the 27th, an area of low pressure was noted near 12½° N. and 106° W. From ship reports at noon of the same day, it was evident that a tropical disturbance was centered near 15° N. and 105° W. At that time the steamship *Capella* near latitude 19°05' N. and longitude 108°20' W. reported, "northeast wind of force 6; barometer 29.92 inches and falling; wind increasing, very rough sea and heavy swell." At latitude 18°11' N. and 105°32' W. the steamship *Japanese Prince* reported wind southeast 7; barometer 29.68 inches; rain; heavy confused swell and sea. With the exception of an observation from the steamship *Antigua*, near latitude 19° N. and 106° W. at 7 p. m. of the 27th, reporting wind force 7 and torrential rain, little is known further of the life of this depression until the morning of the 28th, when reports show that it had developed to full hurricane intensity. At 7 a. m. of the 28th, the hurricane center could be fixed near latitude 20°22' N. and longitude 106°38' W., by the report received from the steamship *Edward Luckenbach*: "Latitude 20°22' N., longitude 106°38' W., wind south-southeast 12, barometer 28.78 inches. Center of disturbance of hurricane force, wind shifted to northwest, force 12."

Winds of force 12 were also reported on the morning of the 28th by the steamship *Japanese Prince* and the motorship *Annie Johnson* near the path of this disturbance.

At 7 a. m. of the 29th a low (29.83 inches) was charted near 32½° N. and 119° W. This appears to have been the remnant of the tropical disturbance.

Tehuantepecers.—"Norther" type gales were reported in the Gulf of Tehuantepec, as follows: Of force 9 on the 4th and 5th; and of force 10 on the 3d.

Fog.—Fog was observed over some portions of the coastal area between Vancouver Island, B. C., and Lower California, every day during the first 2 weeks of the month. Thereafter only a few fog reports on scattered days were noted, and these were observed mostly along the American coast south of the fiftieth parallel.